

**BUREAU OF LAND MANAGEMENT-ROSWELL FIELD OFFICE-EA # NM-510-07-87**

**FOR Girdle Bug Bobo Federal Com. #1H & Damsel Bobo Federal Com. #1H**

(3/9/07) Element Checklist and Table 3.0 – Affected Environment and Basis for Determination No Further Analysis

Resources	Not Present on Site	No Impacts	May Be Impacts*	Mitigation Included	BLM Reviewer	Date
<b>CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT</b>					<b>*Must address in document</b>	
Air Quality			✓		Hydrologist	
Floodplains	✓				/s/ Michael McGee	4/5/07
Water Quality - Surface			✓	✓	Hydrologist /s/ Michael McGee	4/5/07
Water Quality – Ground			X	X	Geologist /s/ John S. Simitz	5/9/07
Cultural Resources		X			Archaeologist Pat Flanary	5/15/07
Native American Religious Concerns		X			07-R-029-A	
Environmental Justice		X			Environ. Prot. Spec. Richard G. Hill	3/16/07
Areas of Critical Environmental Concern	X				Plan & Environ. Coord. /s/ J H Parman	3/20/07
Farmlands, Prime or Unique	X				Realty /s/ Judy Yslas	4/10/07
Invasive, Non-native Species			✓	✓	Range Mgmt. Spec. /s/ Joseph M. Navarro	3/19/07
Wastes, Hazardous or Solid		X			Environ. Prot. Spec. Richard G. Hill	3/16/07
Threatened or Endangered Species	✓				Biologist	4/12/07
Wetlands/Riparian Zones	✓				Melvin Moe	
Wild and Scenic Rivers					Outdoor Rec. Plnr.	
Wilderness	x				Paul Happel	3/21/07
<b>NON-CRITICAL ELEMENTS</b>						
General Topography/Surface Geology		X			Environ. Prot. Spec. Richard G. Hill	3/16/07
Solid Mineral Resources		✓			Geo /s/ Jerry Dutchover	04/24/07
Fluid Mineral Resources			X	X	Pet Engr/Geo. /s/ John S. Simitz	5/15/07
Paleontology		X			Archaeology Pat Flanary 07-R-029-A	5/15/07
Soil			✓	✓	Hydrologist	
Watershed/Hydrology			✓	✓	/s/ Michael McGee	4/5/07
Vegetation			✓	✓	Range Mgmt. Spec.	
Livestock Grazing			✓	✓	/s/ Joseph M. Navarro	3/19/07
Special Status Species	✓				Biologist	4/12/07
Wildlife			✓	✓	Melvin Moe	
Recreation	x				Outdoor Rec. Plnr.	
Visual Resources			x		Paul Happel	3/21/07
Cave/Karst			x			
Public Health and Safety		X			Environ. Prot. Spec. Richard G. Hill	3/16/07

**BUREAU OF LAND MANAGEMENT  
ROSWELL FIELD OFFICE**

**ENVIRONMENTAL ASSESSMENT # NM-510-07-82 FOR  
Girdle Bug Bobo Federal Com. #1H & Damsel Bobo Federal Com. #1H**

**1.0 Introduction**

David H. Arrington Oil & Gas, Inc. has filed two (2) applications to drill the Girdle Bug Bobo Federal Com. #1H & Damsel Bobo Federal Com. #1H gas wells in Section 14, T. 15 S., R. 24 E.. The wells will be horizontally drilled from private surface/mineral lands to federal minerals.

This site-specific analysis tiers into and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan Final Environmental Impact Statement (PRMP/FEIS). This document is available for review at the Roswell Office. This project EA addresses site-specific resources and/or impacts that are not specifically covered within the PMP/FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 U.S.C. 4321 et seq.).

**1.1 Purpose and Need**

The purpose for the proposal(s) is to define and produce natural gas on one or more valid Federal mineral lease(s) issued to the applicant by the BLM. It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet National, regional, and local needs. The Mineral Leasing Act of 1920 (MLA), as amended [30 USC 181 et seq.], authorizes the BLM to issue oil and gas leases for the exploration of oil and gas, and permit the development of those leases. An approved Application for Permit to Drill (APD), issued by the BLM, would authorize the applicant to construct and drill the wells.

**1.2 Conformance with Applicable Land Use Plan and Other Environmental Assessments**

Pursuant to 40 Code of Federal Regulations (CFR) 1508.28 and 1502.21, this site-specific EA tiers to and incorporates by reference the information and analysis contained in the Roswell Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS, BLM [January 1997]), which was approved as the Approved Resource Management Plan for the Roswell Field Office (RFO) of the BLM by the Record of Decision (ROD) signed October 10, 1997. The PRMP/FEIS and ROD are available for review at the Roswell Field Office, Roswell, New Mexico. This EA addresses the resources and impacts on a site-specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). The proposed project(s) would not be in conflict with any State, local, or county plans.

**1.3 Federal, State or Local Permits, Licenses or Other Consultation Requirements**

Under Section 402 of the Clean Water Act (as amended), the U.S. Environmental Protection Agency (EPA), was directed to develop a phased approach to regulate storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Industrial activities disturbing land may require permit coverage through a NPDES storm water discharge. Depending on the acreage disturbed, either a Phase I industrial activity (5 or more acres disturbance) or a Phase II small construction activities (between 1 and 5 acres disturbance) permit may be required. Additionally, an U.S. Army Corps of Engineers Section 404 permit for the discharge of dredge and fill materials may also be required. Additionally, a New Mexico Surface Water Quality Bureau 401 certification may also be required under a U.S. Army Corps of Engineers Section 404 permit. Operators are required to obtain all necessary permits and approvals prior to any disturbance activities.

Roswell Field Office staff reviewed the proposed action and determined it would be in compliance with threatened and endangered species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the U.S. Fish and Wildlife Service is required. .

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to by following the BLM – New Mexico State Historic Preservation Officer protocol agreement, which is authorized by the National Programmatic Agreement between the *BLM*, the *Advisory Council on Historic Preservation*, and the *National Conference of State Historic Preservation Officers*, and other applicable BLM handbooks.

Additionally, the Operator is required to:

- Comply with all applicable Federal, State and local laws and regulations.
- Obtain the necessary permits for the drilling, completion and production of these wells including water rights appropriations, the installation of water management facilities, water discharge permits and relevant air quality permits.
- Certify that a Surface Use Agreement has been reached with private landowners where required.

## 2.0 Alternatives Including the Proposed Action

### 2.1 Alternative A - No Action

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activities will not take place. This option is provided in 43 CFR 3162.3-1 (h) (2). This alternative would deny the approval of the proposed application(s), and the current land and resource uses would continue to occur in the proposed project areas. No mitigation measures would be required.

Under the terms of valid Federal mineral leases, the lessee has the right to develop mineral resources. Other laws, regulations, and policy include provisions for the economic development of existing leases. By Federal law, the government must abide by the terms, conditions, and provisions agreed to when leases were issued. In the Council of Environmental Quality regulations (40 CFR 1500.3), it states that parts 1500-1508 of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969...” except where compliance would be inconsistent with other statutory requirements”.

The No Action Alternative is presented for baseline analysis of resource impacts.

### 2.2 Alternative B Proposed Action

David H. Arrington Oil & Gas, Inc. submitted an Application for Permit to Drill the Girdle Bug Bobo Federal Com. #1H on 5/11/07 and submitted the Application for Permit to Drill for the Damsel Bobo Federal Com. #1H on 5/14/07. David H. Arrington Oil & Gas, Inc. submitted two (2) Notices of Staking on 3/9/07, to drill the Girdle Bug Bobo Federal Com. #1H & Damsel Bobo Federal Com. #1H gas wells. The Girdle Bug Bobo Federal Com. #1H is on private surface and the Damsel Bobo Federal Com. #1H is on state surface land and both gas wells will be horizontally drilled into federal minerals.

1. **Damsel Bobo Federal Com. #1H** - The proposed road is approximately 11,329.7 feet in length, beginning from the Jackson Road to the proposed well pad. The entire 11,329.7 feet is new access road construction and no segment of the road would cross public land. A cattleguard would be constructed and installed at the fence crossing in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  of Sec. 26 - T. 15 S. -R. 24 E.. A rotary drilling rig would be used to drill the well to a depth of 5200' TVD - 8479' MD. The reserve pit would be located on the **west** side of the well pad.

2. **Girdle Bug Bobo Federal Com. #1H** - The proposed road is approximately 14,998.7 feet in length, beginning from the Jackson Road to the proposed well pad. The entire 14,998.7 feet is new access road construction and 1300 feet of the road would cross public land. A cattleguard would be constructed and installed at the fence crossing in the SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> of Sec. 26 - T. 15 S. -R. 24 E.. The construction of approximately 3,669 feet of new access road would begin on the northeast corner of the Damsel Bobo Federal Com. #1H well location and would access the southwest corner of the proposed well pad. A rotary drilling rig would be used to drill the well to a depth of 4900' TVD - 8833' TMD. The reserve pit would be located on the **east** side of the well pad.

3. The construction of the **Damsel Bobo Federal Com. #1H & the Girdle Bug Bobo Federal Com. #1H** wells will include the following for both wells; the proposed well pads would be 320 feet long by 315 feet wide. Plus the construction of Frac Pits for each well; will include the frac pits constructed 160' X 160' inside dimensions and the berms covered with 20 mil plastic lining. The reserve pit construction on each will be 120 feet by 120 feet and dug 4 feet below ground level.

4. Standard oilfield construction equipment consisting of; track-type tractors, motor graders, dump trucks and water trucks would be used to construct the access roads and well pads. The roads would have a driving surface (travelway) of 14 feet, with a maximum 30-foot wide surface disturbance area for the road construction. All other existing access roads would be maintained in a good or better condition than those existing at commencement of operations. Associated production facilities (e.g., pipeline, separator, storage tanks, etc.) would be installed during the production phase of these wells.

## 5. NO RIGHTS-OF-WAY ARE REQUIRED;

**Damsel Bobo Federal Com. #1H** - A review of records shows that the road accessing the Damsel Bobo Com No. 1 H well does not cross any public land. Records were checked from the point that the road leaves the dedicated road to the point where it enters the well location. Therefore no right-of-way is required.

**Girdle Bug Bobo Federal Com. #1H** - A review of records shows that the road accessing the Girdle Bug Bobo Federal Com. #1H well does not cross any public land. Records were checked from the point that the road leaves the dedicated road to the point where it enters the well location. Therefore no right-of-way is required.

### Proposed Well Information:

Well Name	Number	Township	Range	Section	Lease Number	Date Lease Issued
Damsel Bobo Federal Com.	1H	15	24	14	NM-103262	08/12/1999
Girdle Bug Bobo Federal Com.	1H	15	24	14	NM-103262	08/12/1999

County: Chaves

Applicant: David H. Arrington Oil & Gas, Inc.

Surface Owners: State land surface (Damsel Bobo Federal Com. 1H) & Private surface (Girdle Bug Bobo Federal Com. 1H) will be horizontally drilled into underlying Bureau Of Land Management minerals.

## 2.3 Alternative C

The APDs will be approved as proposed. No modifications, or alternatives, to the original proposals were received from the operator, or were identified as the result of the onsite inspection(s) (5/11/07).

## 2.4 Alternatives Considered But Not Analyzed In Detail

## Relocate the Proposed Actions:

The well locations are determined on the basis of subsurface geologic information. No other alternative locations would have significantly fewer impacts than, or have a clear advantage over, the projected locations. Therefore, the alternatives of changing the locations involved in these actions are not analyzed further in this EA.

### 3.0 Description of Affected Environment

This section describes the environment that would be affected by implementation of the alternatives described in Section 2. Aspects of the affected environment described in this section focus on the relevant major resources or issues. Certain critical environmental components require analysis under BLM policy. These items are included below in Table 3.0, found as the first page of this document. Following the table, only the aspects of the affected environment that are potentially impacted are described.

#### 3.1 Air Quality

The areas of the proposed actions are considered Class II air quality areas. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

#### 3.2 Areas of Critical Environmental Concern (ACECs)

The proposed action would not be located within any ACEC presently designated by the RMP.

#### 3.3 Cultural Resources

A cultural inventory survey, 07-R-029-A, revealed one ineligible historic site that should not be impacted by the projects construction.

#### 3.4 Native American Religious Concerns

A review of existing information indicates the proposed actions are outside any known Traditional Cultural Property.

#### 3.5 Environmental Justice

Executive Order 12898 requires Federal agencies to assess projects to ensure there is no disproportionately high or adverse environmental, health, or safety impacts on minority and low-income populations.

#### 3.6 Farmlands, Prime or Unique - Not Present.

#### 3.7 Floodplains - Not present

#### 3.8 Invasive & Noxious Weeds

There are no known populations of invasive or noxious weed species on the proposed access roads and well pads.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause estimated losses to producers \$2 to \$3 billion annually. These losses are attributed to: (1)

Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed and animal health care costs. Increased costs to operators are eventually borne by consumers.

Noxious weeds also affect recreational uses, and reduce realty values of both the directly influenced and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs. Monies would be made available for these activities from the federal government, generated from the federal tax base. Therefore, all citizens and taxpayers of the United States are directly affected when noxious weed control prevention is not exercised.

### **3.9 Threatened or Endangered Species**

Under Section 7 of the Endangered Species Act of 1973 (as amended), the BLM is required to consult with the U.S. Fish and Wildlife Service on any proposed action which may affect Federal listed threatened or endangered species or species proposed for listing. RFO reviewed and determined the proposed actions are in compliance with listed species management guidelines outlined in the 1997 Biological Assessment (Cons. #2-22-96-F-102). No further consultation with the Service is required.

There are no known threatened or endangered species of plant or animals within the project areas. The list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2).

### **3.10 Wastes, Hazardous or Solid**

No waste material will be removed from the project areas and upon reclamation of the reserve pits the NMOCD rules will be imposed and the reserve pit contents will be encapsulated.

### **3.11 Water Quality**

Surface:

Surface water within the areas are affected by geology, precipitation, and water erosion. Factors that currently affect surface water resources include livestock grazing management, oil and gas development, recreational use and brush control treatments. No perennial surface water is found on public land in the areas. Ephemeral surface water within the areas may be located in tributaries, playas, alkali lakes and stock tanks.

Ground:

Groundwater within the areas is affected by geology and precipitation. Factors that currently affect groundwater resources in the areas include livestock grazing management, oil and gas development, groundwater pumping and possible impacts from brush control treatments. Most of the groundwater in the area is used for industrial, rural, domestic and livestock purposes.

### **3.12 Wetlands /Riparian Zones-Not present**

### **3.13 General Topography/Surface Geology**

The topographic characteristics and/or regional setting on both project areas are: flatlands with no major land features anywhere. The terrain on the project areas are typical flat surface lands and the topographic surroundings are the same flat lands.

### **3.14 Mineral Resources**

Construction material (caliche/gravel) for surfacing the access roads and well pads could be obtained by the operator from a federal pit in the SE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 29, T. 14 S. - R. 24 E., Chaves County, New Mexico.

**3.15 Paleontology-** These undertakings are unlikely to affect paleontological resources.

### **3.16 Soil**

The *Soil Survey of Chaves County, New Mexico, Southern Part (USDA Soil Conservation Service 1980)* was used to describe and analyze impacts to soils from the proposed actions. The soil map units represented in the project areas are:

Reaker loam, 0 to 3 percent slopes (RF) Runoff is medium. The hazard of water erosion is moderate, and the hazard of soil blowing is slight. (DA, 5-5-06).

Upton-Atoka association, 0 to 5 percent slopes (UA) Runoff is medium. The hazard of water erosion is moderate, and the hazard of soil blowing is slight.

### **3.17 Watershed – Hydrology**

The watershed and hydrology in the areas are affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on location, extent, timing and the type of activities. Factors that currently cause short-lived alterations to the hydrologic regime in the areas include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent and temporary roads, pipelines and powerlines.

### **3.18 Vegetation- MIXED DESERT SHRUB**

This lease is within the mixed desert shrub vegetative community as identified in the Roswell Resource Management Plan/Environmental Impact Statement (RMP/EIS). Appendix 11 of the Draft RMP/EIS describes the Desired Plant Community (DPC) concept and identifies the components of each community. The Mixed Desert Shrub community is primarily made up of desert grasses, shrubs and cacti. The predominant shrub species include creosote (*Larrea tridentata*), mesquite (*Prosopis glandulosa*), tarbush (*Flourensia cernua*), saltbush (*Atriplex canescens*), little leaf sumac (*Rhus microphylla*), sage (*Artemesia* spp.), yucca (*Yucca* spp.) and javalinabush (*Condalia* spp.) Common cacti encountered are claret cup (*Echinocereus triglochidiatus*), cholla (*Opuntia imbricata*), prickly pear (*Opuntia phaeacantha*), and eagle claw (*Echinocactus horizonthalonius*). Forbs include plantain (*Plantago* spp.), globemallow (*Sphaeralcea* spp.), bladderpod (*Lesquerella* spp.) and buckwheat (*Eriogonum* spp.). Grasses include fluffgrass (*Dasyochloa pulchella*), sideoats grama (*Bouteloua curtipendula*), black grama (*Bouteloua eriopoda*), burrograss (*Scleropogon brevifolius*), dropseed (*Sporobolus* spp.), tobosa (*Pleuraphis mutica*) and blue grama (*Bouteloua gracilis*). Additional species included are gyp grama (*Bouteloua breviseta*), coldenia (*Coldenia* spp.), gyp muhly (*Muhlenbergia* spp.) and Mormon tea (*Ephedra* spp.). Biological crusts also make up a major portion of the soil surface where these inclusions may occur; these crusts are indicative of gyp outcrop soil and protect the surface from undue erosion.

The Ecological Site Description for the well pad and access road is Loamy SD-3. (Southern Desertic Basins, Plains & Mountains).

### **3.19 Livestock Grazing/Range**

This proposed action is located on BLM grazing allotment #64082 Walnut 285, permitted to Carroll Jackson Jr., 7774 Mono Rd, Hagerman, NM 88232. Current permitted use is 56 AU's year long @ 100% public land for 672 AUM's Animal Unit Months. Cattle are the class of livestock authorized.

### **3.20 Wildlife**

The desert shrub vegetation found at these sites provides habitat to a large range of wildlife species. Some of the common mammals are mule deer, pronghorn, badger, coyote, fox, jackrabbit, cottontails, kangaroo rats, and pocket gophers. It also provides habitat for a variety of grassland and desert birds. Important passerine birds include meadowlarks, horned larks, lark buntings, Cassins sparrows, lark sparrows, Chihuahuan ravens, and loggerhead shrikes. Other birds include scaled quail, mourning doves, roadrunners, common nighthawks, killdeer, and a variety of raptors including red tailed and Swainsons hawks, northern harriers, great horned owls, and burrowing owls. It also provides habitat to a variety of common lizards and snakes.

**3.21 Special Status Species** - There are no known special status species found on the project area.

### **3.22 Visual Resources**

Visual Resource Management (VRM) on public land is conducted in accordance with BLM Handbook 8410 and BLM Manual 8411.

### **3.23 Recreation**

The proposed projects are on private surface, no public land recreation would take place on these areas.

### **3.24 Cave/Karst**

No surface cave/karst features were observed in the immediate vicinity of the proposed actions. However, the proposed actions are located in the *Low Karst Potential Area*.

While the proposed action is located in the *Low Potential Karst Are*, no surface cave/karst features were observed in the immediate vicinity of the proposed actions.

### **3.25 Public Health and Safety**

The projects will not be detrimental to public health. The operator will insure that all phases of the project operations are conducted in workman like manner. Precautionary procedures and/or measures will be strictly adhered to in order provide a safe and sound working environment for the life of the wells.

## **4.0 Environmental Consequences and Proposed Mitigation Measures**

### **No Action Alternative**

Under the No Action Alternative, the proposed wells would not be drilled. There would be no new impacts from oil and gas production to the resources. The No Action Alternative would result in the continuation of the current land and resource uses in the project area and is used as the baseline for comparison of alternatives.

### **Alternative B**

Under Alternative B, the Proposed Action, the wells would be drilled as originally proposed, without changes to reduce the potential impact to the environment. A summary of potential surface disturbance is presented in



Table 4.0. Descriptions of potential impacts on individual resources for action alternatives is presented in the following text. Also described are mitigation measures that could be incorporated by the BLM where appropriate as Conditions of Approval attached to the permit.

Table 4.0 Summary of Disturbance

Facility	Number of Miles	Acreage of Disturbance	Duration of Disturbance
Well Pad - Damsel Bobo Federal Com. 1H		2.6	Long Term
New Road Construction - Damsel Bobo Federal Com. 1H	2.2	7.8	Long Term
Frac Tank - Damsel Bobo Federal Com. 1H		0.6	Short Term
Well Pad - Girdle Bug Bobo Federal Com. 1H		2.6	Long Term
New Road Construction - Girdle Bug Bobo Federal Com. 1H	0.7	2.5	Long Term
Frac Tank - Girdle Bug Bobo Federal Com. 1H		0.6	Short Term

Short-term impacts are those which can be stabilized or mitigated rapidly (within 5 years). Long-term impacts are those that would substantially remain for more than 5 years.

#### 4.1 Air Quality

The areas of the proposed actions are considered a Class II air quality areas. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

##### 4.1.1 Direct and Indirect Impacts

Air quality would temporary be directly impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the access roads, well pads, and by the drilling rig that will be used to drill the wells. Dust dissemination would discontinue upon completion of the construction phase of the access roads and well pads. Air pollution from the motorized equipment would discontinue at the completion of the drilling phase of the operations. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction and drilling phases are completed. Other factors that currently affect air quality in the areas include dust from livestock herding activities, dust from recreational use, and dust from use of roads for vehicular traffic.

##### 4.1.2 Mitigation - None

#### 4.2 Areas of Critical Environmental Concern - Not Present

#### 4.3 Cultural Resources

##### 4.3.1 Direct and Indirect Impacts

There should be no direct or indirect impacts to cultural resources in regard to the construction of these two well pads and access roads.

#### 4.4 Native American Religious Concerns

To date, the areas that are affected by the projects construction has not been identified by interested tribes as being important to them.

#### **4.5 Environmental Justice**

##### **4.5.1 Direct and Indirect Impacts**

No minority or low income populations would be directly affected in the vicinity of the proposed actions. Indirect impacts could include impacts due to overall employment opportunities related to the oil and gas and service support industry in the region, as well as the economic benefits to State and County governments related to royalty payments and severance taxes. Other impacts could include a small increase in activity and noise disturbance in areas used for grazing, wood gathering or hunting. However, these impacts would apply to all public land users in the project areas.

##### **4.5.2 Mitigation - None required.**

#### **4.6 Farmlands, Prime or Unique - Not Present**

#### **4.7 Floodplains - Not present**

#### **4.8 Invasive, Non-native Species**

##### **4.8 .1 Direct and Indirect Impacts**

The construction of an access roads and well pads may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seed could be carried to and from the project areas by construction equipment, the drilling rig and transport vehicles. The main mechanism for seed dispersion on the roads and well pads is from equipment and vehicles that were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seed may be elevated by the use of construction equipment typically contracted out to companies that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting onto and exiting the construction areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

##### **4.8 .2 Mitigation**

In the event noxious weeds are discovered after the construction of the access roads and well pads, measures will be taken to mitigate those impacts.

#### **4.9 Threatened or Endangered Species - None present**

#### **4.10 Wastes, Hazardous or Solid**

##### **4.10.1 Direct and Indirect Impacts**

The lease parcels fall under environmental regulations that impact exploration and production waste management and disposal practices and impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges.

##### **4.10.2 Mitigation - None required.**

## **4.11 Water Quality:**

### **Surface;**

#### **4.11.1A Direct and Indirect Impacts**

Surface disturbance from the construction of the well pads, access roads, pipelines, and powerlines can result in degradation of surface water quality and groundwater quality from non-point source pollution, increased soil losses, and increased gully erosion.

Potential direct impacts that would occur due to construction of the well pads, access roads, pipelines, and powerlines include increased surface water runoff and off-site sedimentation brought about by soil disturbance; increased salt loading and water quality impairment of surface waters; channel morphology changes due to road and pipeline crossings; and possible contamination of surface waters by produced water. The magnitude of these impacts to water resources would depend on the proximity of the disturbance to the drainage channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures.

Direct impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to natural stabilization, and reclamation efforts. Construction activities would occur over a relatively short period; therefore, the majority of the disturbance would be intense but short lived. Direct impacts to surface water quality would be minor, short-term impacts which may occur during storm flow events. Indirect impacts to water-quality related resources, such as fisheries, would not occur.

Petroleum products and other chemicals, accidentally spilled, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality. Authorization of the proposed projects would require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

#### **4.11.2A Mitigation**

The use of a plastic-lined reserve pits would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater. Spills or produced fluids (e.g., saltwater, oil, and/or condensate in the event of a breach, overflow, or spill from storage tanks) could result in contamination of the soils onsite, or offsite, and may potentially impact surface and groundwater resources in the long term.

### **B. Groundwater;**

#### **4.11.1B Direct and Indirect Impacts**

Petroleum products and other chemicals, accidentally leaked through casing, could result in surface and groundwater contamination. Similarly, possible leaks from reserve and evaporation pits could degrade surface and ground water quality.

#### **4.11.2B Mitigation**

The casing, cementing and drilling medium requirements imposed on the proposed well would reduce or eliminate the potential for groundwater contamination from drilling muds and other surface sources.

The use of a plastic-lined reserve pits would reduce or eliminate seepage of drilling fluid into the soil and eventually reaching groundwater.

Domestic and stock water obtained from depths ranging from 120 to 490 which places the source in the Artesia Group or shallower according to the State engineer's water quality list. Irrigation water is found in the San Andres formation down to depths of 1100. An inspection of the well logs indicates the slaughter zone as the source of the irrigation water. In this case usable water can be found down to an approximate depth of 1000 ft. by extrapolation from cross -section c-c' found in Welder (1983).

#### **4.12 Wetlands/Riparian Zones - Not present**

#### **4.13 Wild and Scenic Rivers - Not Present**

#### **4.14 Wilderness - Not Present**

#### **4.15 General Topography/Surface Geology**

The surface disturbance anticipated from the construction of the well pads and access roads would have minimal impacts on the area of the operations. No major land or soil displacement would occur from the cradle to grave operations associated with drilling the wells.

##### **4.15.1 Direct and Indirect Impacts**

Direct impacts would result from the removal of the surface soils during construction of the well pads and access roads. The consequential earth moving activities would indirectly impact the vegetation and would cause the fragmentation of the surface habitat where small animals live in the project areas.

##### **4.15.2 Mitigation**

The inclusion of mitigation measures to conserve the landscape as much as possible in the Conditions of Approval would lessen the impacts from the surface disturbance activities on these projects.

#### **4.16 Mineral Resources – No impacts**

#### **4.17 Paleontology - No direct or indirect impacts are anticipated.**

#### **4.18 Soil**

##### **4.18.1 Direct and Indirect Impacts**

**Damsel Bobo Federal Com. #1H** -The construction of the access road, well pad, and reserve pit would physically disturb about 11 acres of topsoil and would expose the substratum soil. **Girdle Bug Bobo Federal Com. #1H** - The construction of the access road, well pad, and reserve pit would physically disturb about 5.7 acres of topsoil and would expose the substratum soil. Direct impacts resulting from the oil and gas construction of the well pads, access roads, and reserve pits include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of top soil productivity and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion with the possible exception of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion and off-site sedimentation. Activities that could cause these types of indirect impacts include construction and operation of well sites, access roads, gas pipelines and facilities.

Contamination of soil from drilling and production wastes mixed into soil or spilled on the soil surfaces could cause a long-term reduction in site productivity. Some of these direct impacts can be reduced or avoided through proper design, construction and maintenance and implementation of best management practices.

Additional soil impacts associated with lease development would occur when heavy precipitation causes water erosion damage. When water saturated segment(s) on the access roads become impassable, vehicles may still be driven over the road. Consequently, deep tire ruts would develop. Where impassable segments are created from deep rutting, unauthorized driving may occur outside the designated route of the access roads.

#### 4.18.2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pads which will be used for surface reclamation of the well pads. The impact to the soil would be remedied upon reclamation of the well pads when the stockpiled soil that was specifically conserved to establish a seed bed is spread over the well pads and vegetation re-establishes.

The reserve pits shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the wells and/or when the access roads are no longer needed the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

Road constructions requirements and regular maintenance would alleviate potential impacts to the access roads from water erosion damage.

### 4.19 Watershed - Hydrology

#### 4.19.1 Direct and Indirect Impacts

Construction and surface disturbance activities from the construction of the well pads, access roads, pipelines and powerlines can result in long term and short term alterations to the hydrologic regime. Peak and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the construction of the well pads and roads. The potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long term direct and indirect impacts to the watershed and hydrology would continue for the life of the wells and would decrease once all well pad and roads surfacing material has been removed and reclamation of the well pads, access roads, pipelines, and powerlines has taken place. Short term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

#### 4.19.2 Mitigation

The operator shall stockpile the topsoil from the surface of the well pads which will be used for surface reclamation of the well pads. The reserve pits shall be recontoured and reseeded as described in the attached Conditions of Approval. Upon abandonment of the wells and/or when the access roads are no longer needed, the Authorized Officer shall issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in the attached Conditions of Approval.

### 4.20 Vegetation

#### 4.20.1 Direct and Indirect Impacts

**Damsel Bobo Federal Com. #1H** - The construction of the access road and well pad would remove about 11 acres of native vegetation. **Girdle Bug Bobo Federal Com. #1H** - The construction of the access road and well pad would remove about 5.7 acres of native vegetation. If the wells are producers, reclamation would not commence until the wells are depleted producer and plugged and abandoned. Vegetative recovery on the access roads and well pads would depend on life of the wells. Native vegetation would encroach on the well pads over time with only high traffic areas remaining unvegetated. If a well is drilled as a dry hole and is plugged, the reclamation of the access road and well pad would immediately follow. Vegetative impacts would be short-term when the access roads and well pads re-vegetate within a few years, and reclamation of the access roads and well pads are successful.

#### 4.20.2 Mitigation

No impact to vegetation is anticipated. However measures will be taken in the event impacts to vegetation are found.

### 4.21 Livestock Grazing/Range

#### 4.21.1 Direct and Indirect Impacts

There would be some minor disruption of livestock grazing in the pasture, specifically on the well pads, during the construction and drilling phase of the wells. Vehicle traffic would increase in the area, which may lead to conflicts with livestock.

#### 4.21.2 Mitigation

If any conflicts with livestock do arise as a result of the access roads and well pads construction, mitigation measures will be taken, and consultation with the allottee will mitigate those impacts.

### 4.22 Special Status Species - Not present

### 4.23 Wildlife

#### 4.23.1 Direct and Indirect Impacts

Some small wildlife species may be killed and their dens or nests destroyed during construction of the access roads and well pads. The construction of the access roads and well pads could cause fragmentation of wildlife habitat. The short-term negative impact to wildlife would occur during the construction phase of the operations would be due to noise and habitat destruction. In general, most wildlife species would become habituated to the new facilities. For other wildlife species with a low tolerance to activities, the operations on the well pads would continue to displace wildlife from the areas due to ongoing disturbances such as vehicle traffic and equipment maintenance. Upon abandonment of the wells, the areas would revegetate and wildlife would return to previous levels.

#### 4.23.2 Mitigation

The conditions of approval would alleviate most losses of wildlife species, such as; netting storage tanks, installation or other modifications of cones on separator stacks, and timing stipulations.

### 4.24 Recreation - The proposed locations are on private and state surface with no public land recreation involved.

## **4.25 Visual Resources [VRM Class IV]**

Facilities, such as condensate and produced water or oil storage tanks that rise above eight feet, would provide a geometrically strong vertical and horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line. The construction of the access roads, well pads and other ancillary facilities would slightly modify the existing areas visual resources. The proposed actions are located in areas designated as VRM Class IV.

The objective of Class IV is to: “Provide for management activities which require major modification of the existing landscape character...Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements.”

Through color manipulation, by painting well facilities to blend with the rolling to flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape. The flat color olive drab from the standard or supplemental environmental colors also closely approximates the brownish color of the setting. All facilities, including the meter building, would be painted this color.

Cumulative adverse visual impacts can be avoided by gradually moving into a more appropriate vegetative/landform setting color scheme.

### **4. 25.1 Direct and Indirect Impacts**

Through color manipulation, by painting well facilities to blend with the flat vegetative and/or landform setting with a gray-green to brownish color, the view is expected to favorably blend with the form, line, color and texture of the existing landscape

### **4.25.2 Mitigation**

The flat color Olive Drab 18-0622 TPX from the Supplemental Environmental Colors Chart is to be used on all facilities to closely approximate the vegetation within the setting. All facilities, including the meter building, would be painted this color.

## **4.26 Cave/Karst**

There would be no impact to known cave entrances, or karst features within the areas of the proposed actions. The proposed actions are located in low karst potential areas.

## **4.27 Public Health and Safety**

### **4.27.1 Direct and Indirect Impacts**

The construction and drilling operations will be conducted in a safe workman like manner and no impacts are anticipated to occur when the operations are conducted in a professional constructive manner.

## **4.28 Cumulative Impacts**

The leased areas of the proposed actions have been industrialized with oil and gas well development. The surface disturbance for each project that has been permitted has created a spreading out of land use fragmentation. The cumulative impacts fluctuate with the gradual reclamation of well abandonments and the creation of new additional surface disturbances in the construction of new access roads and well pads. The on

going process of restoration of abandonments and creating new disturbances for drilling new wells gradually accumulates as the minerals are extracted from the land. Preserving as much land as possible and applying appropriate mitigation measures will alleviate the cumulative impacts.

While it is likely that there will be no significant cumulative impact from the proposed actions, continued oil and gas development, and other surface-disturbing activities in these areas, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife and visual resources.

## 5.0 Consultation/Coordination

This section includes individuals or organizations from the public and its' users, the interdisciplinary team, and permittees that were contacted during the development of this document. An on-site was conducted on (5/11/07) for the Damsel Bobo Federal Com. #1H and ton the Girdle Bug Bobo Federal Com. #1H.

Table 5.1 Summary of Public Contacts Made During Preparation of Document and Interdisciplinary Team

Public Contact	Title	Organization	Present at Onsite?
Mr. Jim Wood	Field Operations Manager Geologist	D.H.A.O&G., Inc.	Present
Mr. Carroll Jackson Jr.	Private Surface Landowner	Rancher	Present
Mr. Mark Naranjo	NMSLO-District Resource Manager	D.H.A.O&G, Inc.	Present
Angel Munez	Party Chief – Topographic Surveyor	D.H.A.O&G, Inc.	Present
Sergio Colula	Topographic Surveyor	D.H.A.O&G, Inc.	Present
ID Team Member	Title	Organization	Present at Onsite?
Richard G. Hill	Environmental Protection Specialist	RFO	Present
Joseph Navarro	Rangeland Management Specialist.	RFO	Present

## 6.0 Appendices

The Roswell Field Office; Well Location Map (Exhibit A), Well Drilling Requirements (Exhibit B), Conditions of Approval (Exhibit C), Permanent Resource Road Requirements (Exhibit D) and Cattleguard Diagram A & B (Exhibit E), Surface Restoration/Reclamation Requirements (Exhibit F), and the special requirements derived from this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

### 6.1 References

U.S. Department of the Interior, Bureau of Land Management. January 1997, *Proposed Resource Management Plan and Final Environmental Impact Statement*. Roswell, New Mexico.

U.S. Department of the Interior, Bureau of Land Management. October 10,1997, *Resource Management Plan Record of Decision*. Roswell, New Mexico.

Welder, G. E., 1983, Geohydrology Framework of the Roswell Basin Chaves and Eddy Counties, New Mexico; Technical Report No. 42, New Mexico State Engineer, Santa Fe, New Mexico

#### 6.1.1 APD, Complete



### 6.1.2 Authorities

Code of Federal Regulations (CFR) 3160

40 CFR All Parts and Sections inclusive Protection of Environment, Revised as of July 1, 2001.

43 CFR, All Parts and Sections inclusive - Public Lands: Interior. Revised as of October 1, 2000.

U.S. Department of the Interior, Bureau of Land Management and Office of the Solicitor (editors). 2001. The Federal Land Policy and Management Act, as amended. Public Law 94-579.

### 6.1.3 Other Supporting Information

# Department of the Interior, Bureau of Land Management

Roswell Field Office  
2909 W. Second Street  
Roswell, New Mexico 88201

Project(s): **Damsel Bobo Federal Com. #1H & Girdle Bug Bobo Federal Com. #1H**

Location: Section: 14, T. 15 S., R. 24 E.

EA Log Number: NM-510-07-82

Applicant: David H. Arrington Oil & Gas, Inc.

Lease Number: NM-103262

Roswell Field Office: (505) 627-0272

File Code: 3160

## Finding of No Significant Impact

Impact identification and analysis of approving the project proposals and/or alternative(s) has been completed. A complete and comprehensive environmental analysis has been conducted. Completion of the environmental assessment, along with implementation of required stipulations and/or mitigating measures outlined in the environmental assessment and Application for Permit to Drill (APD) conditions of approval, will result in (projected) impacted resources values being restored to pre-project conditions and/or acceptable post-project standards. Further analysis in an environmental impact statement is not needed.

## Decision Record

Based upon the analysis, the proposed **Damsel Bobo Federal Com. #1H** gas well, Surface Location; 900' FSL & 660' FEL, UL – P, and Bottom Hole Location; 760' FSL & 660' FWL, UL – M and the proposed **Girdle Bug Bobo Federal Com. #1H** gas well, Surface Location; 760' FNL & 200' FEL, UL – A, and Bottom Hole Location; 760' FNL & 660' FWL, UL – D, located in Section 14, T. 15 S., R. 24 E., are approved. The Bureau of Land Management's approval of the APDs does not relieve the lessee and operator from obtaining required authorizations from the private surface owners.

Rational: The amount of new long-term disturbance will be limited to the well pads and access roads. Short-term impacts will last approximately one growing season or until there is successful plant growth on the rehabilitated portion.

The Bureau of Land Management staff has reviewed the environmental assessment and identified site-specific mitigation measures to avoid or minimize surface impacts resulting from the construction of this project. The well pads and access roads will remain as long term impacts. The cumulative impacts to the environment from existing and new development have been identified. During construction activities, machinery emissions, disturbed ground, drilling and construction equipment will result in short-term visual impacts. These impacts will be minimized by a rapid construction schedule and site restoration.

VRM - The Bureau of Land Management has developed a visual resource management (VRM) classification system designed to enhance visual qualities and describe degrees of modification to the landscape. The proposed project areas are classified as class IV VRM. The IV VRM allows for minor through major modifications of the existing landscape and the level of change in the basic landscape from depending of the VRM Classification.

A cultural and historic resource category 3 inventory was conducted on May 7 and 8, 2007. A total of 5.3 acres of Federal land and 47.3 acres of private land were inventoried for these two well pads and access roads. One site was recorded that should not be impacted by construction. Standard stipulations will be required on the projects. See Cultural Resource Stipulations attached to the APD. A cultural clearance was granted on May 15, 2007.

The operator would be allowed to drill these wells as part of the further development of, and in accordance with, terms of their Federal lease.

A bond is required for all Federal leases. The bond must guarantee performance and compliance with the lease terms and cover all liabilities arising from, or related to drilling operations on a Federal lease including the restoration of any land or surface waters adversely affected by lease development.

Production history in the Permian Basin has demonstrated that there are no unique or unknown risks. The effects of oil and gas exploration and production are known, and based on experience, mitigation measures and stipulations have been developed to avoid, minimize or eliminate impacts.

The effects on the human environment have not been controversial in the past and the public has not voiced opposition to new wells being drilled in the areas.

Secondary effects on soil, erosion, vegetation, cultural resources, wildlife habitat and recreation resources were considered. Partial reclamation will occur during the production phase and full reclamation will occur after final abandonment. Residual impacts that remain after mitigation measures and implemented are found acceptable.

This proposed action is in compliance with the Roswell Resource Management Plan and Final Environmental Management Plan that was approved October 10, 1997. These plans have been reviewed to determine if the proposed actions conform with the land-use planning terms and conditions required by 43 CFR 1610.5. County and local planning: No land-use planning or zoning exists in Chaves County that will affect these actions.

#### Stipulations

Mitigating measures were considered and analyzed in the Environmental Assessment. Based on impact analysis, specific stipulations and/or mitigating measures have been selected and are attached to the approved APDs. The applicant is responsible for implementing these mitigating measures to prevent and/or reduce impacts projected to occur during and after project completions.

Administrative Review and Appeal: Under BLM regulations, this Decision Record (DR) is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of this DR must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, 1474 Rodeo Road, Santa Fe, NM 87505, no later than 20 business days after this DR is received or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

Prepared by:

\_\_\_\_\_  
Date \_\_\_\_\_  
Environmental Protection Specialist

Approved by:

\_\_\_\_\_  
Date \_\_\_\_\_  
Assistant Field Manager, Lands & Minerals

# EXHIBIT B

## WELL DRILLING REQUIREMENTS

1 of 5 pages

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Girdle Bug Bobo Federal Com. #1H  
¼ & FOOTAGE: NE¼NE¼ - SL; 760' FNL & 200' FEL and BHL; 760' FNL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

### I. GENERAL PROVISIONS:

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

### II. WELL PAD CONSTRUCTION REQUIREMENTS:

- A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify Richard G. Hill at least 3 working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number (505) 627-0247.
- B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with **a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**
- C. The holder shall stockpile the topsoil from the surface of the well pad. The topsoil on the Girdle Bug Bobo Federal Com. #1H well pad is approximate 6 inches in depth. Approximately 800 cubic yards of topsoil shall be stockpiled on the Southwest corner of the well pad, opposite the reserve pit.
- D. **Reserve Pit Requirements:**
  - 1. The reserve pit shall be constructed 120' X 120' on the **East** side of the well pad.
  - 2. The reserve pit shall be constructed to a minimum depth of four (4) feet below ground level. The reserve pit shall be constructed, so that the cuttings in the reserve pit can be buried a minimum depth of three (3) feet below ground level. **See Exhibit E – Surface Reclamation/Restoration Requirements.**
  - 3. A synthetic or fabricated liner 12 mil in thickness shall be used to line the reserve pit. The liner shall meet ASTM standards that are designed to be resistant to the reserve pit contents.

4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.
5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the well location.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

**E. Federal Mineral Materials Pit Requirements:**

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.
3. Mineral Materials extracted during construction of the reserve pit may be used for development of the pad and access road as needed, for the **Girdle Bug Bobo Federal Com. #1H** gas well only. Removal of any additional material on location must be purchased from BLM prior to removal of any material.
  - a. An optional mineral material pit may be constructed within the archaeologically cleared area. The mineral material removed in the process can be used for pad and access road construction. However, a mineral material sales contract must be purchased from the BLM prior to removal of any material.

**F. Well Pad Surfacing Requirement:**

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. See **Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.**

**G. Cave Requirements:**

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact Bill Murry at (505) 627-0220.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

**III. WELL SUBSURFACE REQUIREMENTS:****A. GENERAL DRILLING REQUIREMENTS:**

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272, in sufficient time for a representative to witness:

A. Spudding                      B. Cementing casing: 8 5/8 inch; 5 1/2 inch;                      C. BOP Tests

2. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan is not required for this wellbore.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A communitization agreement shall be approved by this office prior to any sales from this well.

**B. CASING:**

1. The 8 5/8 inch shall be set at 1100 Feet with cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 5 1/2 inch Intermediate casing is to circulate to surface.

**C. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8 5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2 M psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the test.

- The test shall be done by an independent service company
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures.
- Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in safe workman-like manner. Hard line connections shall be required.
- Both low pressure and high pressure testing of BOPE is required.

**IV. ON LEASE - WELL REQUIREMENTS:**

A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. **The communitization agreement number shall be posted on the well sign.** The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: David H. Arrington Oil & Gas, Inc.

Well Name & No.: Girdle Bug Bobo Federal Com. #1H

Lease No.: NM-103262

Footage: SL; 760' FNL & 200' FEL & BHL; 760' FNL & 660' FWL

Location: Section 14, T. 15 S., R. 24 E.

C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).

E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

**F. Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.

2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).

3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.

4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

**G. Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard or supplemental Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is "**Olive Drab 18-0622 TPX**" (Colors derived from "**PANTONE**" For **Architecture and Interiors Color Guide**).

**H. Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public land. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

**I. Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.
2. New production equipment installed on federal leases after November 1<sup>st</sup>, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

**V. Invasive and Noxious Weeds Requirement:**

A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

**VI. SPECIAL REQUIREMENT(S): NONE**



# EXHIBIT C

1 of 3 pages

## CONDITIONS OF APPROVAL

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Girdle Bug Bobo Federal Com. #1H  
¼¼ & FOOTAGE: NE¼NE¼ - SL; 760' FNL & 200' FEL and BHL; 760' FNL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

### GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public land under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.
4. **Weed Control:**
  - A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

**5. Hazardous Substances:**

a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, *et. seg.*) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seg.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seg.*) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

**6. Undesirable Events:**

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal land, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal land, or to repair all damages to Federal land resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

**7. Archaeological, Paleontology, and Historical Sites:**

- a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.
- b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

**8. Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

9. **Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

10. **Other:** None

# EXHIBIT D

1 of 7 pages

## PERMANENT RESOURCE ROAD REQUIREMENTS

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Girdle Bug Bobo Federal Com. #1H  
 $\frac{1}{4}$  & FOOTAGE: NE $\frac{1}{4}$ NE $\frac{1}{4}$  - SL; 760' FNL & 200' FEL and BHL; 760' FNL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

The holder agrees to comply with the following requirements:

### 1. GENERAL REQUIREMENTS:

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least its former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

### 2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southwest** corner of the well pad to comply with the planned access road route.

### 3. ROAD TRAVELWAY WIDTH:

The travelway of the road shall be constructed 14 feet wide. The maximum width of surface disturbance shall not exceed 30 feet of road construction. The specified travelway width is 14 feet for all road travelway surfaces unless the Authorized Officer approves a different width.

**4. SURFACING:**

A. Beginning from the dedicated road (county road and/or state highway) all access roads on federal surface and the entire length of the new access road travelway shall be surfaced prior to drilling operations.

B. **The access road travelway shall be surfaced** with caliche or gravel material. If other surfacing material is used, the new type of material shall be approved by the Authorized Officer. The travelway of the road shall be surfaced with **caliche** material. The caliche material shall be compacted to a minimum thickness of **6** inches for the entire length of the travelway surface on the access road. The width of surfacing shall not be less than 14 feet of travelway surface. Prior to using any mineral materials from an existing federal pit, authorization must first be obtained from the Authorized Officer.

**5. CROWNING AND DITCHING:**

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching shall be required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

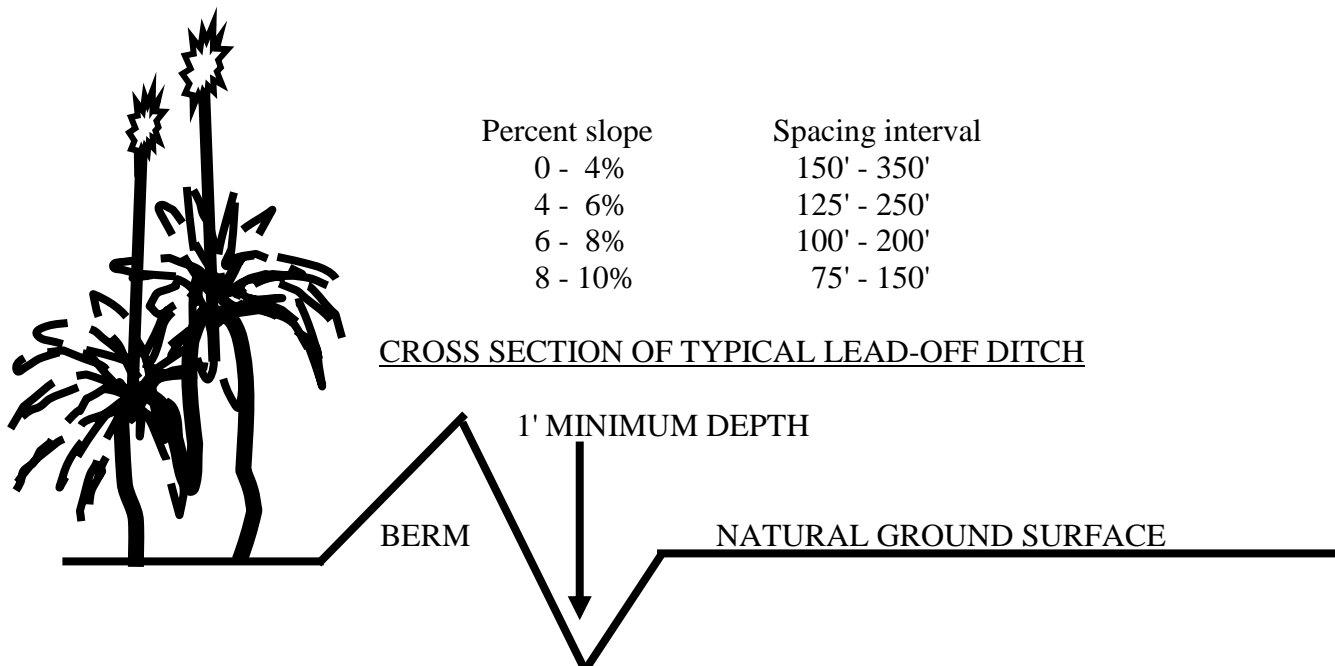
**6. DRAINAGE: No lead-off ditches are required for this road.**

A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings.

B. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

**PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:**

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

**CROSS SECTION OF TYPICAL LEAD-OFF DITCH**

C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope:      spacing interval =  $\frac{400}{4} + 100 = 200$  feet

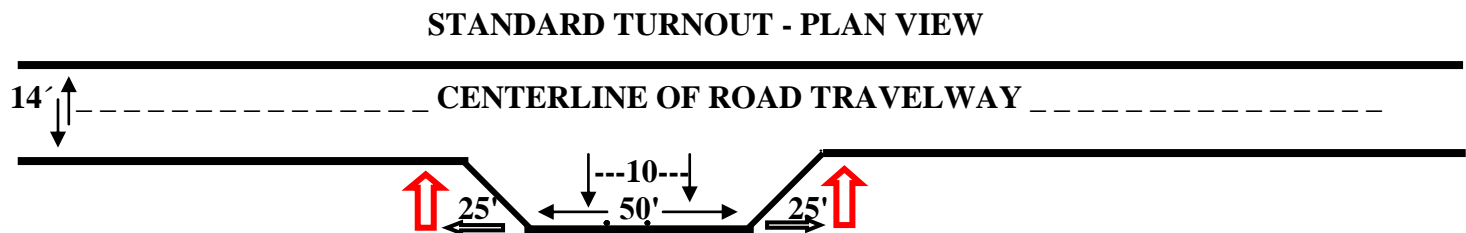
**7. CULVERT INSTALLATION:**      **No culverts are required on this road.**

ONE (1) CULVERT SHALL BE INSTALLED AT THE DEEP WATERWAY CHANNEL FLOW CROSSING IN THE XX¼XX¼ OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).

Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

**8. TURNOUTS:**      **No Turnouts Are Required On This Road.**

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:



**9. CATTLEGUARDS:**      **NONE REQUIRED**

## PERMANENT RESOURCE ROAD REQUIREMENTS

4 of 7 pages

A. ONE (1) CATTLEGUARD SHALL BE INSTALLED AT THE FENCE CROSSING IN THE XX¼XX¼ OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).

B. A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).

C. The existing cattleguard(s) on the access road shall be replaced if they are damaged from heavy vehicular traffic use and the Authorized Officer determines that a new cattleguard shall be installed where the existing in place cattleguard(s) have deteriorated beyond practical use. The holder shall be held responsible for the condition of the existing in place cattleguard(s) that are utilized for vehicular traffic use on lease operations by the holder.

D. Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards – Exhibit X – Diagram A & B). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

### 10. MAINTENANCE:

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation and cleaning, cattleguard maintenance, surfacing and weed control.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

### 11. PUBLIC ACCESS:

A Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

**12. ROAD REHABILITATION REQUIREMENTS:**

**B. On private estate land the restoration procedures on the reclamation of the access road shall be accomplished in accordance with the Private Surface Land Owner concurrence. If the surface land owner does not retain the access road for his ranch operations, upon abandonment of this well, the surface material (caliche/gravel) shall be removed from the access road. The removal of the surface material on the road could be re-used for maintenance of other federal roads within close proximity of the reclaimed area or properly disposed of in a federal mineral material pit.**

**13. SPECIAL REQUIREMENT(S): NONE**



# EXHIBIT E

1 of 5 pages

## SURFACE RECLAMATION/RESTORATION REQUIREMENTS

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Girdle Bug Bobo Federal Com. #1H  
1/4 1/4 & FOOTAGE: NE 1/4 NE 1/4 - SL; 760' FNL & 200' FEL and BHL; 760' FNL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

### **I. GENERAL PROVISIONS:**

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who administers the reclamation requirements.
- C. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad.

### **II. FORM 3160-5, SUNDRY NOTICES AND REPORTS ON WELLS:**

- A. The holder shall adhere to the following:
  - 1. If the well is not drilled, please notify the BLM so that an official release can be approved.
  - 2. **Downhole requirement:** If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", an original and five (5) copies shall be submitted to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc..
  - 3. The same notification shall be required of the Holder for the reclamation/restoration of the access road and well pad. The Holder shall initially report surface reclamation/restoration of the access road and well pad concurrently with the Downhole requirement. A Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", an original and five (5) copies shall be submitted to the Roswell Field Office. Upon receipt of the "**NOI**" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.

4. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.

5. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, that shall ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request for the final approval of the access road and well pad.

### **III. BOND LIABILITY:**

A. Liability under bond shall be retained until all surface reclamation/restoration of the access road and well pad has been completely reclaimed to the satisfaction of the Authorized Officer.

### **IV. ACCESS ROAD AND WELL PAD RECLAMATION REQUIREMENTS:**

1. If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain.

2. Upon abandonment of the well, cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less. The road shall be recontoured to as near the original topography, as possible.

3. Upon abandonment of the well, all production equipment shall be removed from the well pad and properly disposed of.

**4. On private estate land the restoration procedures on the reclamation of the access road and well pad shall be accomplished in accordance with the Private Surface Land Owner concurrence. If the surface land owner does not retain the access road and/or well pad for his ranch operations, upon abandonment of this well, the surface material (caliche/gravel) shall be removed from the access road and well pad.**

5. The surfacing material that is removed can be used on existing surfaced roads in need of maintenance, or hauled to a federal material pit for disposal. If the material is to be used on a road or hauled to a material pit, contact the BLM Authorized Officer at (505) 627-0272 for possible additional requirements.

6. Upon removal of the surfacing material, the access road and well pad shall be ripped a maximum of **16** inches deep (Ripping depth will be determined by depth of soil shown in the Soil Conservation Service Survey Handbook).
7. All culverts and other road structures (e.g.: cattleguard, H-Braces, signs, etc.) shall be removed and properly disposed of.
8. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches and any other excavated earthwork shall be back filled.
9. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

**V. Reserve Pit Reclamation Requirements:**

- A. Upon reclamation of the reserve pit, the impervious, reinforced, synthetic or fabricated **12** mil in thickness liner shall be used to encapsulate the reserve pit cuttings.
- B. The dried cuttings in the reserve pit shall be buried a minimum depth of three (3) feet below ground level.
- C. The reserve pit area shall be covered with a three (3) feet minimum cap of clean soil or like material that is capable of supporting native plant growth. Once the reserve pit contents have been capped, the cap shall not be disturbed without NMOCD approval.
- D. Should the cuttings in the reserve pit not meet the three (3) feet below ground level depth, the excess contents shall be removed from the reserve pit until the required minimum depth of three (3) feet below ground level requirement has been met. The excess cuttings shall be removed from the well location and shall be properly disposed of at an authorized disposal site.
- E. Contact Richard G. Hill at (505) 627-0247, three days before commencing the reserve pit reclamation. Interim reclamation requirements for well pad reduction shall be issued at this time.

**VI. SEEDING REQUIREMENTS:**

- A. The stockpile of topsoil shall be spread over the well pad to cultivate a seedbed. The holder shall not contaminate the topsoil stockpile with the reserve pit muds and/or cuttings.
- B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.
- C. The same seed mixture shall be used for the reclamation of the access road and well pad.
- D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and is planted first; the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. **Desired Plant Community** seed mixture to be planted in pounds of pure live seed per acre:

Alama silt loam, dry, 0-3% Slope; Hollomex loam, 1-9% slope, dry; Reeves loam, 0-2% slope, dry; Milner loam, 0-2% slope, dry

Loamy, SD-3 Ecological Site; Loamy CP-2; Gyp Upland CP-2

<u>Common Name and Preferred Variety</u>	<u>Scientific Name</u>	<u>Pounds of Pure Live Seed Per Acre</u>
Blue grama, var. Lovington	( <i>Bouteloua gracilis</i> )	4.00 lbs.
Sideoats grama, var. Vaughn or El Reno	( <i>Bouteloua curtipendula</i> )	1.00 lb.
Sand dropseed	( <i>Sporobolus cryptandrus</i> )	0.50 lb.
Vine mesquite	( <i>Panicum obtusum</i> )	1.00 lb.
Plains bristlegrass	( <i>Setaria macrostachya</i> )	1.00 lb.
Indian blanketflower	( <i>Gaillardia aristata</i> )	0.50 lb.
Desert or Scarlet	( <i>Sphaeralcea ambigua</i> )	1.00 lb.
Globemallow	or ( <i>S. coccinea</i> )	
Annual sunflower	( <i>Helianthus annuus</i> )	<u>0.75 lb.</u>
TOTAL POUNDS PURE LIVE SEED PER ACRE		9.75 lbs.

If one species is not available, increase ALL others proportionately. Use No Less than 4 species, including one forb! No Less than 9.75 pounds per acres shall be applied.

E. The recommended time to seed is from June 15<sup>th</sup> through September 15<sup>th</sup>. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15<sup>th</sup> - Nov. 15<sup>th</sup>, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

F. The seeding of the disturbed areas shall be repeated until a vegetative thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed areas is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetative growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad are futile.

H. Contact Mr. Randy Legler at (505) 627-0215 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.

I. Invasive and Noxious Weeds Requirement:

1. The holder shall be held responsible if noxious weeds become established within the reclaimed areas. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the road, pad, associated pipeline corridor/routes, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

2. The holder shall insure that the equipment and or vehicles that will be used to reclaim the access roads and well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to reclamation of the access roads and well pad.

# EXHIBIT B

## WELL DRILLING REQUIREMENTS

1 of 5 pages

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Damsel Bobo Federal Com. #1H  
¼¼ & FOOTAGE: SE¼SE¼ - SL; 900' FSL & 660' FEL & BHL; 760' FSL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

### I. GENERAL PROVISIONS:

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

### II. WELL PAD CONSTRUCTION REQUIREMENTS:

- A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify Richard G. Hill at least 3 working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number (505) 627-0247.
- B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with a **copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).**
- C. The holder shall stockpile the topsoil from the surface of the well pad. The topsoil on the Damsel Bobo Federal Com. #1H well pad is approximate 6 inches in depth. Approximately 800 cubic yards of topsoil shall be stockpiled on the East side of the well pad, opposite the reserve pit.

#### D. **Reserve Pit Requirements:**

- 1. The reserve pit shall be constructed 120' X 120' on the **West** side of the well pad.
- 2. The reserve pit shall be constructed to a minimum depth of four (4) feet below ground level. The reserve pit shall be constructed, so that the cuttings in the reserve pit can be buried a minimum depth of three (3) feet below ground level. **See Exhibit F – Surface Reclamation/Restoration Requirements.**
- 3. A synthetic or fabricated liner 12 mil in thickness shall be used to line the reserve pit. The liner shall meet ASTM standards that are designed to be resistant to the reserve pit contents.

## WELL DRILLING REQUIREMENTS

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- 4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the well location.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

**E. Federal Mineral Materials Pit Requirements:**

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.
3. Mineral Materials extracted during construction of the reserve pit may be used for development of the pad and access road as needed, for the **Damsel Bobo Federal Com. #1H** gas well only. Removal of any additional material on location must be purchased from BLM prior to removal of any material.
  - a. An optional mineral material pit may be constructed within the archaeologically cleared area. The mineral material removed in the process can be used for pad and access road construction. However, a mineral material sales contract must be purchased from the BLM prior to removal of any material.

**F. Well Pad Surfacing Requirement:**

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. See **Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.**

**G. Cave Requirements:**

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact Bill Murry at (505) 627-0220.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

**WELL DRILLING REQUIREMENTS**

**3 of 5 pages**

**III. WELL SUBSURFACE REQUIREMENTS:**

#### **A. GENERAL DRILLING REQUIREMENTS:**

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272, in sufficient time for a representative to witness:

A. Spudding                      B. Cementing casing: 8 5/8 inch; 5 1/2 inch;                      C. BOP Tests

2. A Hydrogen Sulfide (H2S) Drilling Plan is not required for this wellbore.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A communitization Agreement shall be approved by this office prior to any sales from this well.

#### **B. CASING:**

1. The 8 5/8 inch shall be set at 1100 Feet with cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 5 1/2 inch Intermediate casing is to circulate to surface.

#### **C. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8 5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2 M psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the test.

- The test shall be done by an independent service company
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures.
- Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in safe workman-like manner. Hard line connections shall be required.
- Both low pressure and high pressure testing of BOPE is required.

#### **WELL DRILLING REQUIREMENTS**

**4 of 5 pages**

#### **IV. ON LEASE - WELL REQUIREMENTS:**



A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. **The communitization agreement number shall be posted on the well sign.** The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: David H. Arrington Oil & Gas, Inc.

Well Name & No.: Damsel Bobo Federal Com. #1H

Lease No.: NM-103262

Footage: SL; 900' FSL & 660' FEL & BHL; 760' FSL & 660' FWL

Location: Section 14, T. 15 S., R. 24 E.

C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).

E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

**F. Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.
2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).
3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.
4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

**WELL DRILLING REQUIREMENTS**

**5 of 5 pages**

**G. Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard or supplemental Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is "**Olive Drab 18-0622 TPX**" (Colors derived from "PANTONE" FOR Architecture and Interiors Color Guide).

#### **H. Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public land. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

#### **I. Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.
2. New production equipment installed on federal leases after November 1<sup>st</sup>, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

#### **V. Invasive and Noxious Weeds Requirement:**

A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

#### **VI. SPECIAL REQUIREMENT(S): NONE**

# EXHIBIT C

1 of 3 pages

## CONDITIONS OF APPROVAL

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Damsel Bobo Federal Com. #1H  
1/4 & FOOTAGE: SE1/4SE1/4 - SL; 900' FSL & 660' FEL & BHL; 760' FSL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

### GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public land under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.
4. **Weed Control:**
  - A. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipelines, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

B. The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad and resulting well are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

#### **5. Hazardous Substances:**

a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, *et. seg.*) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seg.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seg.*) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

#### **6. Undesirable Events:**

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal land, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal land, or to repair all damages to Federal land resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

### **CONDITIONS OF APPROVAL**

**3 of 3 pages**

#### **7. Archaeological, Paleontology, and Historical Sites:**

a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

#### **8. Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

**9. Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

**10. Other:** None

# EXHIBIT D

1 of 8 pages

## PERMANENT RESOURCE ROAD REQUIREMENTS

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Damsel Bobo Federal Com. #1H  
1/4 1/4 & FOOTAGE: SE 1/4 SE 1/4 - SL; 900' FSL & 660' FEL & BHL; 760' FSL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

The holder agrees to comply with the following requirements:

### 1. GENERAL REQUIREMENTS:

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least its former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

### 2. INGRESS AND EGRESS:

The access road shall be constructed to access the well pad on the **Southeast** corner of the well pad to comply with the planned access road route.

### 3. ROAD TRAVELWAY WIDTH:

The travelway of the road shall be constructed 14 feet wide. The maximum width of surface disturbance shall not exceed 30 feet of road construction. The specified travelway width is 14 feet for all road travelway surfaces unless the Authorized Officer approves a different width.

## PERMANENT RESOURCE ROAD REQUIREMENTS

2 of 8 pages

### 4. SURFACING:

A. Beginning from the dedicated road (county road and/or state highway) all access roads on federal surface and the entire length of the new access road travelway shall be surfaced prior to drilling operations.

B. **The access road travelway shall be surfaced** with caliche or gravel material. If other surfacing material is used, the new type of material shall be approved by the Authorized Officer. The travelway of the road shall be surfaced with **caliche** material. The caliche material shall be compacted to a minimum thickness of **6** inches for the entire length of the travelway surface on the access road. The width of surfacing shall not be less than 14 feet of travelway surface. Prior to using any mineral materials from an existing federal pit, authorization must first be obtained from the Authorized Officer.

## 5. CROWNING AND DITCHING:

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching shall be required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

## 6. DRAINAGE: **No lead-off ditches are required for this road.**

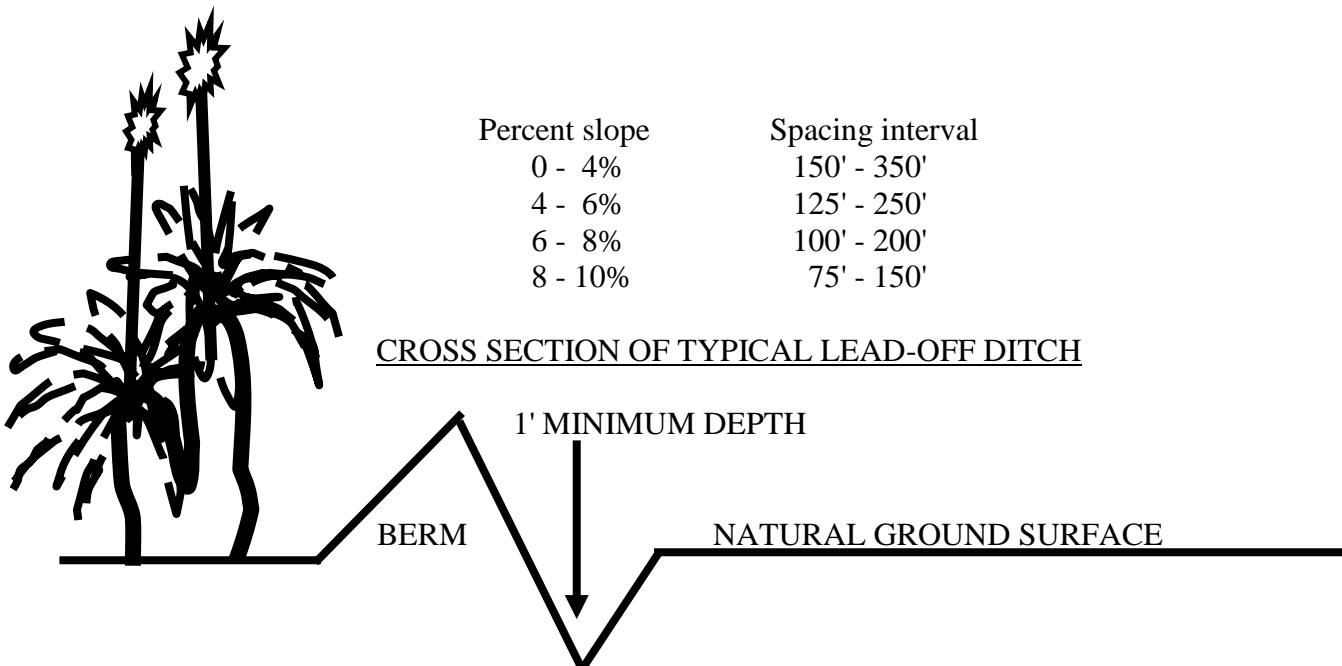
A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings.

B. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

### PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

### CROSS SECTION OF TYPICAL LEAD-OFF DITCH



C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope:      spacing interval =  $\frac{400}{4} + 100 = 200$  feet

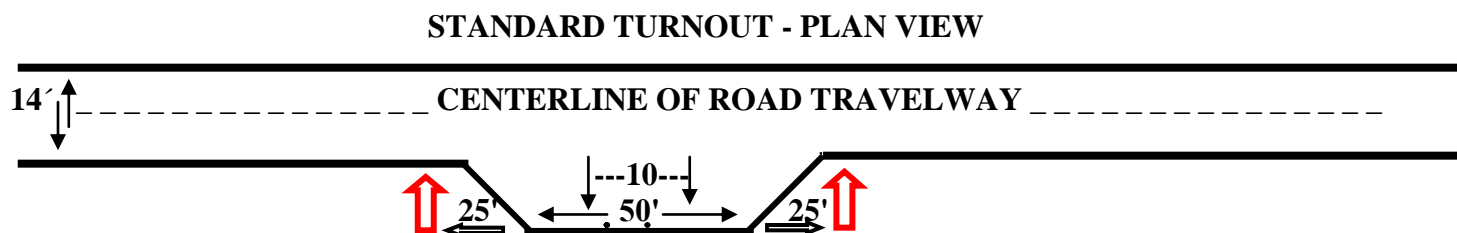
**7. CULVERT INSTALLATION:**      **No culverts are required on this road.**

**ONE (1) CULVERT SHALL BE INSTALLED AT THE DEEP WATERWAY CHANNEL FLOW CROSSING IN THE XX¼XX¼ OF SECTION - T. S. - R. E. (SEE EXHIBIT A - LOCATION MAP).**

Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

**8. TURNOUTS:**

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:



**9. CATTLEGUARDS: ONE REQUIRED**

**A. ONE (1) CATTLEGUARD SHALL BE INSTALLED AT THE FENCE CROSSING IN THE SE¼SE¼ OF SECTION 26 - T. 15 S. - R. 24 E. (SEE EXHIBIT A - LOCATION MAP).**



B. A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT F - DIAGRAM A & B).

C. Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards – Exhibit F – Diagram A & B). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

#### **10. MAINTENANCE:**

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation and cleaning, cattleguard maintenance, surfacing and weed control.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

#### **11. PUBLIC ACCESS:**

A. Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

#### **12. ROAD REHABILITATION REQUIREMENTS:**

**A. SEE -SURFACE RECLAMATION/RESTORATION REQUIREMENTS - Exhibit F.**

**B. On private estate land the restoration procedures on the reclamation of the access road shall be accomplished in accordance with the Private Surface Land Owner concurrence. If the surface land owner does not retain the access road for his ranch operations, upon abandonment of this well, the surface material (caliche/gravel) shall be removed from the access road.**

#### **13. SPECIAL REQUIREMENT(S): NONE**

# EXHIBIT F

1 of 5 pages

## SURFACE RECLAMATION/RESTORATION REQUIREMENTS

OPERATORS NAME: David H. Arrington Oil & Gas, Inc. LEASE NO.: NM-103262  
WELL NAME & NO: Damsel Bobo Federal Com. #1H  
1/4 1/4 & FOOTAGE: SE 1/4 SE 1/4 - SL; 900' FSL & 660' FEL & BHL; 760' FSL & 660' FWL  
LOCATION: Section 14, T. 15 S., R. 24 E.  
COUNTY: Chaves County, New Mexico, NMPM

### **I. GENERAL PROVISIONS:**

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who administers the reclamation requirements.
- C. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad.

### **II. FORM 3160-5, SUNDRY NOTICES AND REPORTS ON WELLS:**

- A. The holder shall adhere to the following:
  - 1. If the well is not drilled, please notify the BLM so that an official release can be approved.
  - 2. **Downhole requirement:** If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", an original and five (5) copies shall be submitted to the Roswell Field Office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc..
  - 3. The same notification shall be required of the Holder for the reclamation/restoration of the access road and well pad. The Holder shall initially report surface reclamation/restoration of the access road and well pad concurrently with the Downhole requirement. A Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", an original and five (5) copies shall be submitted to the Roswell Field Office. Upon receipt of the "**NOI**" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.

4. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.

5. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notices and Reports On Wells, an original and five (5) copies shall be submitted to the Roswell Field Office, that shall ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request for the final approval of the access road and well pad.

### **III. BOND LIABILITY:**

A. Liability under bond shall be retained until all surface reclamation/restoration of the access road and well pad has been completely reclaimed to the satisfaction of the Authorized Officer.

### **IV. ACCESS ROAD AND WELL PAD RECLAMATION REQUIREMENTS:**

1. If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain.

2. Upon abandonment of the well, cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less. The road shall be recontoured to as near the original topography, as possible.

3. Upon abandonment of the well, all production equipment shall be removed from the well pad and properly disposed of.

**4. On private estate land the restoration procedures on the reclamation of the access road and well pad shall be accomplished in accordance with the Private Surface Land Owner concurrence. If the surface land owner does not retain the access road and/or well pad for his ranch operations, upon abandonment of this well, the surface material (caliche/gravel) shall be removed from the access road and well pad.**

5. The surfacing material that is removed can be used on existing surfaced roads in need of maintenance, or hauled to a federal material pit for disposal. If the material is to be used on a road or hauled to a material pit, contact the BLM Authorized Officer at (505) 627-0272 for possible additional requirements.

6. Upon removal of the surfacing material, the access road and well pad shall be ripped a maximum of **16** inches deep (Ripping depth will be determined by depth of soil shown in the Soil Conservation Service Survey Handbook).
7. All culverts and other road structures (e.g.: cattleguard, H-Braces, signs, etc.) shall be removed and properly disposed of.
8. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches and any other excavated earthwork shall be back filled.
9. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

**V. Reserve Pit Reclamation Requirements:**

- A. Upon reclamation of the reserve pit, the impervious, reinforced, synthetic or fabricated **12** mil in thickness liner shall be used to encapsulate the reserve pit cuttings.
- B. The dried cuttings in the reserve pit shall be buried a minimum depth of three (3) feet below ground level.
- C. The reserve pit area shall be covered with a three (3) feet minimum cap of clean soil or like material that is capable of supporting native plant growth. Once the reserve pit contents have been capped, the cap shall not be disturbed without NMOCD approval.
- D. Should the cuttings in the reserve pit not meet the three (3) feet below ground level depth, the excess contents shall be removed from the reserve pit until the required minimum depth of three (3) feet below ground level requirement has been met. The excess cuttings shall be removed from the well location and shall be properly disposed of at an authorized disposal site.
- E. Contact Richard G. Hill at (505) 627-0247, three days before commencing the reserve pit reclamation. Interim reclamation requirements for well pad reduction shall be issued at this time.

**VI. SEEDING REQUIREMENTS:**

- A. The stockpile of topsoil shall be spread over the well pad to cultivate a seedbed. The holder shall not contaminate the topsoil stockpile with the reserve pit muds and/or cuttings.
- B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.
- C. The same seed mixture shall be used for the reclamation of the access road and well pad.

D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and is planted first; the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. **Desired Plant Community** seed mixture to be planted in pounds of pure live seed per acre:

Alama silt loam, dry, 0-3% Slope; Hollomex loam, 1-9% slope, dry; Reeves loam, 0-2% slope, dry;  
Milner loam, 0-2% slope, dry

Loamy, SD-3 Ecological Site; Loamy CP-2; Gyp Upland CP-2

<u>Common Name and Preferred Variety</u>	<u>Scientific Name</u>	<u>Pounds of Pure Live Seed Per Acre</u>
Blue grama, var. Lovington	( <i>Bouteloua gracilis</i> )	4.00 lbs.
Sideoats grama, var. Vaughn or El Reno	( <i>Bouteloua curtipendula</i> )	1.00 lb.
Sand dropseed	( <i>Sporobolus cryptandrus</i> )	0.50 lb.
Vine mesquite	( <i>Panicum obtusum</i> )	1.00 lb.
Plains bristlegrass	( <i>Setaria macrostachya</i> )	1.00 lb.
Indian blanketflower	( <i>Gaillardia aristata</i> )	0.50 lb.
Desert or Scarlet	( <i>Sphaeralcea ambigua</i> )	1.00 lb.
Globemallow	or ( <i>S. coccinea</i> )	
Annual sunflower	( <i>Helianthus annuus</i> )	<u>0.75 lb.</u>
TOTAL POUNDS PURE LIVE SEED PER ACRE		9.75 lbs.

If one species is not available, increase ALL others proportionately. Use No Less than 4 species, including one forb! No Less than 9.75 pounds per acres shall be applied.

**SURFACE RECLAMATION/RESTORATION REQUIREMENTS**

**5 of 5 pages**

E. The recommended time to seed is from June 15<sup>th</sup> through September 15<sup>th</sup>. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15<sup>th</sup> - Nov. 15<sup>th</sup>, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

F. The seeding of the disturbed areas shall be repeated until a vegetative thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed areas is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetative growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad are futile.

H. Contact Mr. Randy Legler at (505) 627-0215 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.

I. Invasive and Noxious Weeds Requirement:

1. The holder shall be held responsible if noxious weeds become established within the reclaimed areas. Evaluation of the growth of noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land where noxious weeds exist, which includes the road, pad, associated pipeline corridor/routes, and adjacent land affected by the establishment of weeds due to this action. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

2. The holder shall insure that the equipment and or vehicles that will be used to reclaim the access roads and well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to reclamation of the access roads and well pad.